APRIL/MAY 2024

23PECH23B — GREEN CHEMISTRY

Shanmuga Industries Arts & Science College
T.V.Malai

Time : Three hours Maximum : 75 marks

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. Which international organizations promoting green chemistry? Write its name?
2. What is the need of green chemistry?
3. How will you design green synthesis?
4. Mention the importance of selecting starting materials.
5. Give example for polymer support catalyst.
6. Define green catalysis.
7. What is phase transfer catalyst?
8. List the different types of phase transfer catalysts.
9. Tell the physical aspects of ultrasound assisted synthesis?
10. In what way microwaves are support the green synthesis?

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Explain inherently safer chemistry for accident prevention.

Or

(b) Highlight the limitations of green chemistry.

12. (a) Write a note on green solvents like water and ionic liquids.

Or

(b) How will you synthesize adipic acid and catechol using green synthesis?

13. (a) Differentiate acid catalyst and basic catalyst using green catalysis.

Or

(b) Develop a hint of polysupported photosensitizers.

14. (a) Apply PTC in elimination and displacement reaction.

Or

(b) Categorize phase transfer catalyst and give example for each category.

15. (a) Demonstrate the instrumentation of microwave induced green synthesis.

Or

(b) Compare the applications of micro wave induced and ultra sound assisted green synthesis.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. What are the development of green chemistry? Explain the essential principles.

17. Describe super critical CO_2 Give its organic reactions.

18. Construct the following:

(a) Polystyrene aluminum chloride

(b) Polymeric super acid catalysts

19. List the applications of phase transfer catalyst in organic synthesis.

20. Illustrate the principles of microwave and sono chemistry. Give two examples of above reactions.

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